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PREVALENCE OF LOW BACK PAIN AND ITS ASSOCIATED RISK FACTORS IN AL-BAHA REGION, SAUDI ARABIA

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Abstract

Background: *Low back pain is defined as activity limiting low back pain that may or may not be associated with pain referred into the lower limbs. Its prevalence in Saudi Arabia in a systematic review ranged from 53.2% to 79.17% among the general population.*

Objective: *To measure the prevalence of low back pain among medical students at Al-Baha university, Saudi Arabia.*

Methods: *A cross-sectional study that has utilized an online form to obtain responses from April to mid-June 2018. The online form had an introduction explaining the purpose of the study and giving the participant the choice of filling the form or not. After the collection, data were entered and analysed by (SPSS version 21.00).*

Results: *The total of responses has reached (163). The majority were males (74.8%), Only (0.6%) were married, with a mean age of (21.76 ± 4.08). The overall prevalence of low back pain (52.1%). (16.5%) of the students who have had low back have missed lectures due to the pain. There was a significant association between the positive psychological history and low back pain (P-value = 0.01). Patients suffering from the disease have indicated long hours of studying.*

Conclusion: *Half of the medical students in Al-Baha university have had low back pain which has caused some to miss lectures. Low back pain is common and can present with psychological complaints. Therefore, further researches should be done to identify the role of psychological problems in low back pain.*

Key words: *Low-back-pain, risk-factors, medical-students, Al-Baha, Saudi-Arabia.*

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INTRODUCTION:

Low back pain is defined as activity limiting low back pain that may or may not be associated with pain referred into lower limbs. The low back is the posterior aspect from the twelfth rib to the gluteal folds [1]. Low back pain is not a rare disease and thus cannot be neglected, its prevalence in Saudi Arabia in a systematic review ranged from 53.2% to 79.17% among the general population [2]. The prevalence varies according to many considerable factors such as; age, sex, profession, and the presence of any comorbidities [3].

Health care workers have a higher prevalence rate of low back pain. In the United States, male health workers were found to be at an increased risk of developing low back pain [4]. Here in Saudi Arabia, half of health science students (56.6%) has had the disease [5]. Moreover, the prevalence of the condition among health care practitioners in a tertiary hospital in the capital of Saudi Arabia was as high as (83.9%) [6].

Comorbidities represent an important and significant risk factor for low back pain. Psychological problems are an important risk factor that should be sought to identify their role in developing the disease [2]. Stress has been identified to be associated with the condition while depression and anxiety have similar prevalence compared to the general population [7]. Working hours are an important risk factor to be considered in relation to occupation and profession [4]. Among students, studying hours is the facing risk factor of working hours followed by the duration of watching TV and using smart devices [5].

The burden is at its greatest when low back pain causes disability. Although, (13%) of medical practitioners in Saudi Arabia tend to take days off due to low back pain, while 10% of the medical doctors have taken days off due to the pain [6].

Affected individuals can see a doctor, use over the counter medications, or even try to sit, relax and sleep to relieve the pain. However, young patients tend to visit a doctor and use medications more often [8]. Some positions may aggravate the pain like sitting or standing, while in some other individuals, the same positions may relieve the pain. All the positions will exacerbate the pain with longer duration, with standing affecting the pain more [9].
The actions in which the patients may do depend on their knowledge and understanding about low back pain. Unfortunately, the majority of the patients have limited knowledge about their condition [10].

No previous research on the prevalence of low back pain has been done in Al-Baha region, Saudi Arabia. Therefore, in an attempt to gain a better understanding about the disease and its associated risk factors we have conducted this study aiming to identify the prevalence of low back pain and its associated factors in Al-Baha region, Saudi Arabia.

METHODOLOGY:

Design

The present study is a cross sectional study measuring the overall prevalence of low back pain and its associated risk factors. A questionnaire was used to obtain responses from medical students at Al-Baha university, Saudi Arabia. Filling the questionnaire was not obligatory and an individual consent from each respondent was obtained after explaining the nature and the purpose of the study. The research is approved by the higher education and scientific research committee of the faculty of medicine of A-Baha university, Saudi Arabia.

Data collection

An online form was designed to include all the questions related to the topic in addition to personal information like; age, sex, and social status. The data collection started from the 30th of April 2018 until the 11th of June 2018.

The questionnaire included questions regarding possible risk factors such as; previous injury, back surgery, psychological problem, hours of studying, weight, body mass index, and smoking. The questionnaire has also an extended form for those who suffer from low back pain, including questions regarding precipitating and relieving factors like; sitting, standing, and sleeping. Patients were also asked if they have visited a doctor and used medications, family history of the same condition and loss of weight were also included.

Sampling

Stratified random sampling was used in this study. The students were stratified according to their studying year and the link to the online form was distributed randomly between the students. The inclusion criteria include; medical students from Al-Baha university, Saudi Arabia. Only interns were excluded from the study to avoid variation in the prevalence as the interns have different work than the students.

Data analysis

The data were analysed by a computer program (SPSS, version 21.0). Frequency tables were used to display the distribution of the population according to

studying year. Percentage tables were used to demonstrate other significant findings. Significant associations were identified using Pearson Chi-Square test.

RESULTS:

Sociodemographic characteristics

A total of 163 students has submitted their responses. The majority were males (74.8%), Only (0.6%) were married, with a mean age of (21.76 ± 4.08). About two thirds of the students (64.4%) had six to nine family members, (18.4%) had more than nine, while only (16%) had less than six family members. The studying year for the participated students are shown in (Table 1).

Low back pain, its relation and associated symptoms

The overall prevalence of low back pain among medical students was (52.1%) when asked if they ever had a low back pain, it was more prevalent among males (70.6%). Of those who have had low back pain (87.6%) had the pain for less than 6 weeks. Upon asking about associated symptoms; (15.29%) and (21.18%) have reported lower limb weakness and numbness, respectively. While (4.71%) have indicated urination and defecation problems. Respondents were asked about the pain relations with sitting, standing, and sleeping, the results were variable (Table 2).

Effect of the pain and students' actions toward the pain

The participants who have indicated that they have had back pain, (30.59%) said that it has affected their daily routine, home duties being the most affected (11.7%). Low back pain has also made some students to miss their lectures (16.5%), and about one third of them (31.2%) has missed three lectures or more.

Students were asked if they think they should see a doctor for their low back pain, (45.9%) did not think they should see a doctor, and only (10.6%) think that they should see a doctor. Meanwhile, only (13%) had visited a doctor previously, for which some of them had diagnostic imaging and got medications for the pain they had. Males tended to visit doctors more than females (P-value = 0.043).

Of all the participants (65.6%) had a positive family history for low back pain.

Significant associations with low back pain

Hours of study, hours of reading and writing, and exposure to injury were significantly associated with the presence of low back pain in our sample (Table 3).

Low back pain was higher among students of the sixth and third year (25.9%) and (22.4%) respectively, followed by the first and second year (17.5%) and (15.3) respectively, (P-value = 0.004). studying year has affected the potentiality of students to see a doctor as well, where senior students think they should see a doctor more than junior students (P-value = 0.04).

Participants were asked if they have any psychological problems, and it was significantly associated with the presence of lower back pain, of those who have indicated the presence of a psychological problem (73.3%) had lower back pain (P-value = 0.01).

Table 1: The numbers and percentages of students from different studying years

	Number	Percentage
First year	33	20.2%
Second year	27	16.6%
Third year	29	17.8%
Fourth year	22	13.5%
Fifth year	20	12.3%
Sixth year	32	19.6%

Table 2: Effect of setting, standing, and sleeping on low back pain

	No effect	Increases	Improves
Setting	21.18%	58.82%	23.53%
Standing	21.18%	71.76%	10.59%
Sleeping	30.59%	11.76%	35.29%

Table 3: Low back pain associations with hours of studying, reading writing, and exposure to injury

	Effect on low back pain	P-value
Hours of study	Increases with more hours of studying	0.010
Hours of reading and writing	Increases with more hours of reading and writing	0.042
History of back surgery	Pain more in the injured individuals	0.000

DISCUSSION:

The overall prevalence of low back pain is variable, depending on age, sex, career, and other associated factors. Our study indicates that the overall prevalence among medical students in Al-Baha region, Saudi Arabia is (52.1%). Looking at the literature, the overall prevalence of low back pain in Saudi Arabia would range from 53.2% to 79.17% [11]. Here we should consider the prevalence among undergraduate students and health practitioners, as it was found to be (83.9%) among health practitioners in Riyadh, Saudi Arabia [3]. Among health sciences students, the lifetime prevalence is (56.6%) [12]. Other studies done among undergraduate students also found that the prevalence is higher among medical students [12-13] which probably is due to long studying hours and uncomfortable chairs at university [12,14].

The negative effects of low back pain include; absenteeism, affected daily routine, psychological problems, and even disability. Considering the burden of the disease, Damian Hoy et al have concluded that out of (291) diseases, low back pain was the highest contributor to disability [1]. The psychological complications of the disease were studied as well, stress among affected individuals was the most reported issue [7], where others considered stress among other psychological problems as risk factors [2]. The disease has many complex risk factors like; working and studying hours, body mass index (BMI), age, sex, and occupation [2,9]. In our study, the condition was significantly associated with age and studying hours without showing any significance for BMI, gender, or income.

Although low back pain was strongly associated with psychological problems, it is hard to theoretically consider them as risk factors or consequences [2]. The presence of a psychological problem was also associated with long duration of the pain and negatively affected daily routine (P-value= 0.013), (P-value=0.033) respectively. The latter two may be more of consequences than risk factors.

Lotfi et al [12], have conducted a study concerning low back pain among undergraduate students in Al-Taif university. The findings were similar to those which the authors suggested in the present study. Low back pain is noticed more among older students and those who complain of a psychological problem.

While no studies in the literature have investigated the relieving factors such as; setting, standing, sleeping, and exercise. Sleeping was found to be the most factor improving the pain while setting was the most factor increasing the pain. On the other hand, the literature has found that most of the diseased persons improved their pain with medications prescribed by a doctor [9]. In Saudi Arabia, prescribing vitamin D in chronic low back pain was found to be a major contributor in improving the symptoms [15]. From a preventive side of view, exercise still the mainstay of low back pain [16].

Conclusion

Half of the medical students at Al-Baha university, Saudi Arabia has reported low back pain which was associated with many factors. The association of a psychological problem can be a risk factor, complication, or both which should be studied in more details to identify its real role. From those who have seen a doctor for their pain, medications had improved their symptoms with sleeping being the most relieving factor.

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